

NEW SPECIES AND RECORDS OF FRUIT FLIES (DIPTERA: TEPHRITIDAE: DACINAE) FROM NORTH QUEENSLAND

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Abstract

Four new species of Dacinae from Australia are described and illustrated: *Bactrocera* (*Bactrocera*) *parabarringtoniae* sp. nov., *B. (Bactrocera)* *yorkensis* sp. nov., *B. (Bulladacus)* *neotigrina* sp. nov. and *B. (Hemizeugodacus)* *ektoalangiae* sp. nov. Notes on distribution and lures are presented for nine further species in northern Queensland.

Introduction

The tropical fruit fly fauna (subfamily Dacinae) of Australia is endemic to the northern and northeastern parts of the country and is reasonably well known (Drew 1989). Since the last major survey of northern Queensland (Drew *et al.* 1981), extensive trapping and host fruit collections have been made during the eradication programme for *Bactrocera papayae* Drew & Hancock (Asian Papaya fruit fly) in North Queensland, plus continuing North Australian Quarantine Survey work in Torres Strait. This has resulted in new host and geographic records and the collection of several undescribed species. These species are described in this paper and several new distribution records presented. Host records will be presented elsewhere.

Specimen depositories are abbreviated as follows: ANIC, Australian National Insect Collection, Canberra; BMNH, The Natural History Museum, London; QDPI, Queensland Department of Primary Industries, Brisbane; QM, Queensland Museum, Brisbane.

Systematics

Bactrocera (Bactrocera) Macquart

Bactrocera (Bactrocera) amplexiseta (May)

Comments. This species is widespread in both high and low altitude rainforests from Auravale and Mt Poverty (south of Cooktown) to the Ingham area and inland to the Atherton Tableland. The host is unknown.

Bactrocera (Bactrocera) barringtoniae (Tryon)

Comments. As a result of this study it is now possible to amend attractant and distribution records in Drew (1989). *B. barringtoniae* has been recorded only from the Cairns district and does not respond to any male lure. The record of attraction to cue lure (Drew 1989) is incorrect. This was proven during December 1995 at Brinsmead, Cairns, when the authors placed cue lure and methyl eugenol traps in and around a large *Barringtonia calyptрата* tree that had ripe fruit heavily infested with *B. barringtoniae*. No specimens were attracted to either male lure, while 256 males and 258 females were reared from a single fruit sample from the same tree on 15.xii.1995.

Previous records from Torres Strait islands (Drew 1989) refer to *B. parabarringtoniae* sp. nov. which is strongly attracted to methyl eugenol and breeds in *Barringtonia racemosa*.

***Bactrocera (Bactrocera) diospyri* Drew**

Comments. Four males were collected in a methyl eugenol trap on Green Island, east of Cairns, on 28.viii.1998 and 4.ix.1998. This is a significant extension of the previously known range of coastal Northern Territory and Torres Strait islands (Drew 1989). Elsewhere this species has not been recorded at lures and the response may be due to placement of the trap in a host tree, *Diospyros maritima* (Ebenaceae), from which 5 males and 8 females were bred from fruit collected on 29.ix.1998.

***Bactrocera (Bactrocera) frauenfeldi* (Schiner)**

Comments. Previously known from Cape York Peninsula (Drew 1989), as far south as Weipa and Iron Range, this species was recorded from the Cairns area in 1994 by Osborne *et al.* (1997). It is now known to be widespread between Cooktown and Townsville and inland to the Atherton Tableland. The first Townsville records are 13.x.1997 and 24.xi.1997, collected in cue lure traps (DPI State quarantine survey).

***Bactrocera (Bactrocera) opiliae* (Drew & Hardy)**

Comments. Previously known from northern Western Australia and the Northern Territory (Drew 1989), this species was collected in methyl eugenol traps at Adel's Grove, near Lawn Hill, northwestern Queensland, on 21.i.1998 (DPI State quarantine survey).

***Bactrocera (Bactrocera) papayae* Drew & Hancock**

Comments. This major pest species has occurred sporadically on Torres Strait islands since 1993, following its introduction to Papua New Guinea via Irian Jaya. An established population was detected in the Cairns area in October 1995, with subsequent detections made from Cooktown to Cardwell before its eradication by mid 1998, the last specimens being recorded from mainland Australia in July 1997.

***Bactrocera (Bactrocera) parabarringtoniae* Drew & Hancock, sp. nov.**

(Fig. 1)

Types. QUEENSLAND: *Holotype* ♂, Stephen Is., Torres Strait, 17.v.1995, attracted to methyl eugenol (in QM, Reg. No. T.57677); *paratypes*: 5 ♂♂, same data as holotype; 21 ♂♂, Stephen Is., Torres Strait, 25.iv.1995, R. Stephen, attracted to methyl eugenol; 9 ♂♂, Stephen Is., Torres Strait, Site 3, 31.v.1995, attracted to methyl eugenol; 8 ♂♂, 10 ♀♀, track to Tom's house, Stephen Island., 5.iv.1995, R. Stephen, bred from *Barringtonia racemosa* (SV141); 5 ♂♂, 8 ♀♀, track to Tom's house, Stephen Is., 8.iv.1995, R. Stephen, bred from *Barringtonia racemosa* (SV143). 6 ♂♂, 3 ♀♀ in QM, Reg. Nos T.57678 – T.57686; 6 ♂♂, 3 ♀♀ in ANIC; 30 ♂♂, 9 ♀♀ in QDPI; 6 ♂♂, 3 ♀♀ in BMNH.

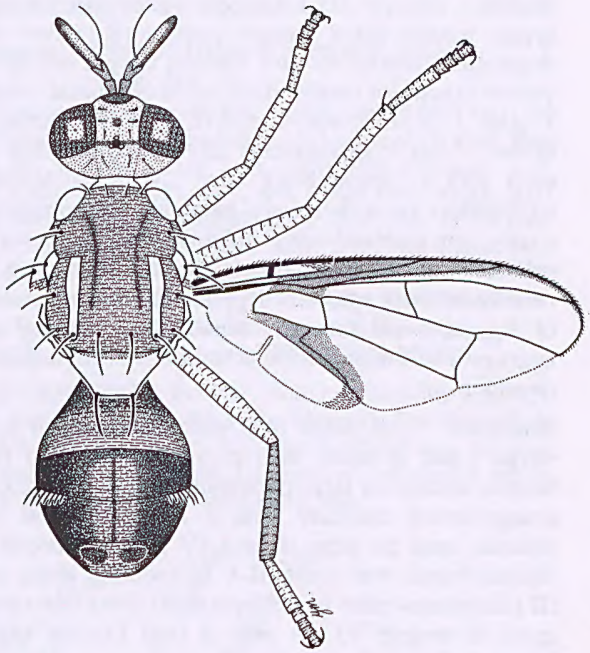


Fig. 1. *Bactrocera (Bactrocera) parabarringtoniae* Drew & Hancock, sp. nov.

Description of male

Head. Vertical length 1.7 mm. Frons length 1.56 times breadth; orange-brown except with narrow fulvous anterolateral margins, fuscous on anteromedial hump and pale fuscous around bases of orbital setae, latter covered with a small number of short dark hairs; orbital setae black: 1 *s.or.*, 2 *i.or.*; lunule pale fuscous. Ocellar triangle black. Vertex red-brown to pale fuscous. Face fulvous with a pair of medium sized oval black spots present; length 0.47 mm. Genae fulvous with brown subocular spots present; red-brown seta present. Occiput orange-brown, fulvous along eye margins; occipital row with 4-8 strong red-brown to black setae. Antennae with segments 1 and 2 red-brown to pale fuscous; segment 3 orange-brown with fuscous on apex and outer surface; short pale dorsal seta on segment 2; arista black (orange-brown basally); length of segments: 0.22 mm; 0.36 mm; 0.88 mm.

Thorax. Scutum dark red-brown with a pattern of narrow lateral longitudinal fuscous bands. Pleural areas pale fuscous to dark fuscous except red-brown below postpronotal lobes. Yellow markings as follows: postpronotal lobes; notopleura; mesopleural stripe of medium width reaching almost to anterior *npl.* bristle dorsally, continuing to katapisternum as a large transverse spot,

anterior margin slightly convex; anatergite (posterior apex fuscous to dark fuscous); anterior 2/3 katatergite (remainder fuscous to dark fuscous); two broad parallel-sided lateral postsutural vittae ending behind *ia.* seta. Postnotum fuscous to dark fuscous except red-brown centrally. Scutellum yellow except for narrow dark red-brown basal band. Setae: *sc.* 2, *prsc.* 2, *ia.* 1, *p.sa.* 1, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all setae well developed and red-brown. Legs – all segments fulvous except hind tibiae fuscous; mid tibiae each with an apical black spur. Wings – length 6.2 mm; cells bc and c colourless or with a very pale tint; microtrichia in outer corner of cell c only; remainder of wings colourless or with a very pale tint except fuscous cell sc, narrow fuscous costal band overlapping R_{2+3} and becoming very narrow between apices of R_{2+3} and R_{4+5} before ending just beyond extremity of R_{4+5} , a broad fuscous cubital streak ending at wing margin. Dense aggregation of microtrichia around A_1+CuA_2 ; supernumerary lobe of medium development.

Abdomen. Oval; terga free; pecten present on tergum III. Tergum I and sterna I and II wider than long. Terga I and II generally red-brown to fuscous except for large posterolateral fulvous areas on tergum II; terga III-V orange-brown centrally with a narrow medial longitudinal diffuse pale fuscous band on terga III and IV and two broad lateral longitudinal dark fuscous bands over terga III-V and joining along anterior margin of tergum III (sometimes paler on posterolateral areas of tergum IV and around shining spots on tergum V). A pair of oval fuscous shining spots on tergum V. Posterior lobe of surstylus short; sternum V with a deep concavity on posterior margin.

Female. As for male except supernumerary lobe weak; abdominal tergum III without pecten. Ovipositor: basal segment orange-brown, dorsoventrally compressed and tapering posteriorly in dorsal view; ratio of length of oviscape to length of tergum V, 0.33:1. Aculeus needle shaped at apex.

Attractant. Methyl eugenol.

Distribution. Torres Strait islands (known from Badu, Darnley, Nepean, Saibai, Stephen, Thursday and Yorke Islands).

Host. *Barringtonia racemosa* (Lecythidaceae).

Comments. *B. parabarringtoniae* is similar to *B. aithogaster* Drew, *B. barringtoniae* (Tryon) and *B. peninsularis* (Drew & Hancock) in possessing a general red-brown scutum and pale abdominal terga III-V with lateral dark colour patterns. It differs from these species in having abdominal terga III-V with broad lateral longitudinal dark fuscous bands that are usually joined along anterior margin of tergum III and with terga III and IV possessing a narrow medial longitudinal diffuse pale fuscous band. In

addition, it differs from *B. barringtoniae* and *B. peninsularis* in having a pair of lateral longitudinal fuscous bands on the scutum.

***Bactrocera (Bactrocera) yorkensis* Drew & Hancock, sp. nov.**

(Fig. 2)

Types. QUEENSLAND: *Holotype* ♂, [base of] Rex Range (Site RFRR 001) [nr Mossman], 16.ix.1996, P. Gleeson *et al.*, attracted to methyl eugenol (in QM, Reg. No. T.57687); *paratypes*: 1 ♂, Somerset, Cape York, 28.vi.1995, PQ staff; 1 ♂, Mossman (Site MOSG 40), 7.xii.1995, QDPI; 1 ♂, Rex Range (Site RFRR 003), 20.v.1996, QDPI staff; 1 ♂, Rex Range (Site RFRR 005), 20.v.1996, QDPI staff; 1 ♂, Rex Range (Site RFRR 005), 27.v.1996, QDPI staff; 1 ♂, Rex Range (Site RFRR 001), 1.vii.1996, QDPI staff; 2 ♂♂, Kuranda (Site RFK 003), 31.v.1996, QDPI staff; 4 ♂♂, Palm Cove (Site NBG 6), Cairns, 28.xii.1996, QDPI staff; 1 ♂, Yarrabah, Cairns, ix.1996, C. Darling; all paratypes attracted to methyl eugenol. 1 ♂ in QM, Reg. No. T.57688; 3 ♂♂ in ANIC; 6 ♂♂ in QDPI; 3 ♂♂ in BMNH.

Other material examined. QUEENSLAND: 205 ♂♂, from the following localities: Hopevale, Cooktown, Amos Bay, Mt Poverty, Rossville, Shipton's Flat, Bloomfield River, Mossman, Port Douglas, Mowbray Valley, Oak Beach, Ellis Beach, Buchans Point, Palm Cove, Trinity Beach, Cairns, Yarrabah, Cardwell; all collected at methyl eugenol (all in QDPI, Cairns). Collected in all months of the year.

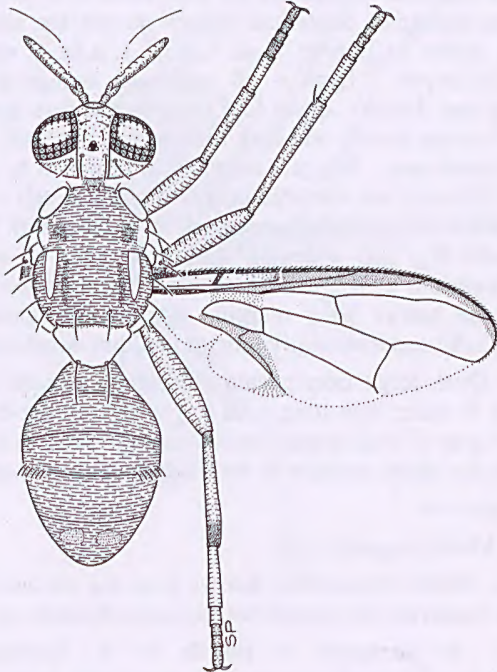


Fig. 2. *Bactrocera (Bactrocera) yorkensis* Drew & Hancock, sp. nov.

Description of male

Head. Vertical length 1.17 mm. Frons length 1.66 times breadth; orange-brown without dark markings; orbital setae red-brown: 1 *s.or.*, 2 *i.or.*; lunule orange-brown. Ocellar triangle black. Vertex orange-brown. Face fulvous, no dark spots or markings; length 0.42 mm. Genae fulvous, no subocular spot; pale seta present. Occiput orange-brown, fulvous along eye margins; occipital row with a large number of small pale setae. Antennae with segments 1 and 2 orange-brown, segment 3 orange-brown with pale fuscous on apex and outer surface; short pale dorsal seta on segment 2; arista black (orange-brown basally); length of segments: 0.12 mm; 0.22 mm; 0.56 mm.

Thorax. Scutum dark orange-brown with irregular pale fuscous to black patterns of varying size. Pleural areas dark orange-brown except for two small dark fuscous to black spots on anterior margin of katatergite and below wing. Yellow markings as follows: postpronotal lobes; notopleura; a broad yellow band connecting postpronotal lobe and notopleuron; broad mesopleural stripe reaching almost to postpronotal lobe dorsally, continuing to katapisternum as a large transverse spot, anterior margin strongly convex; anatergite (posterior apex black); anterior 2/3 katatergite (remainder black); two short lateral postsutural vittae tapering posteriorly to end before level of *ia.* setae. Postnotum orange-brown with narrow to broad dark fuscous to black lateral margins. Scutellum yellow except for narrow orange-brown basal band. Setae: *sc.* 2, *prsc.* 2, *ia.* 1, *p.sa.* 1, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all setae red-brown. Legs – all segments orange-brown except basal segments of tarsi fulvous, apical four segments of fore tarsi fuscous and hind tibiae with fuscous basally and dark fuscous apically; mid tibiae each with an apical red-brown spur. Wings – length 4.56 mm; cell bc pale fuscous, cell c with a pale tint only; microtrichia in outer corner of cell c only; remainder of wings colourless except dark fuscous cell sc, narrow dark fuscous costal band confluent with R_{2+3} and widening slightly at apex of wing before ending between extremities of R_{4+5} and M, a broad fuscous cubital streak narrowing sharply to end before wing margin. Dense aggregation of microtrichia around A_1+CuA_2 ; supernumerary lobe of medium development.

Abdomen. Oval; terga free; pecten present on tergum III. Tergum I and sterna I and II wider than long. All terga dark orange-brown without dark markings. A pair of oval orange-brown shining spots on tergum V. Posterior lobe of surstylus short; sternum V with a deep concavity on posterior margin.

Female. Unknown.

Attractant. Methyl eugenol.

Distribution. North Queensland; known from the northern tip of Cape York Peninsula at Somerset, the Cooktown to Cairns districts and near Cardwell.

Comments. *B. yorkensis* is similar to *B. diaphana* (Hering) and *B. ochromarginis* (Drew) in possessing general pale colouration of the thorax and abdomen, fulvous legs, wings with a narrow costal band and cubital

streak and a yellow band connecting the postpronotal lobes and notopleura. It differs from both species in having *prsc.* bristles, lateral postsutural vittae tapering to a point to end before the *ia.* setae, facial spots absent, costal cells with a pale tint and abdominal terga entirely orange-brown without dark markings. In addition it differs from *B. diaphana* in having the mesopleural stripe reaching almost to the postpronotal lobe, notopleura entirely yellow and costal cells without dense microtrichia. Most specimens were collected at low altitudes in or near eucalypt woodland.

Bactrocera (Bulladacus) Drew & Hancock

Bactrocera (Bulladacus) neotigrina Drew & Hancock, sp. nov.

(Figs 3, 4)

Types. QUEENSLAND: *Holotype* ♂, Helenvale [nr Cooktown], 29.i.1997, D. Wood *et al.*, bred ex *Terminalia sericocarpa* (sample No. NQB 2819) (in QM, Reg. No. T.57689); *paratypes*: 1 ♂, 5 ♀♀, same data as holotype; 4 ♂♂, 8 ♀♀, Jensen's Crossing, NW of Cooktown, 16.xii.1996, D. Wood, bred ex *Terminalia sericocarpa* (sample No. NQC 352). 1 ♂, 2 ♀♀ in QM, Reg. No. T.57690 – T.57692; 1 ♂, 4 ♀♀ in ANIC; 2 ♂♂, 4 ♀♀ in QDPI; 1 ♂, 3 ♀♀ in BMNH.

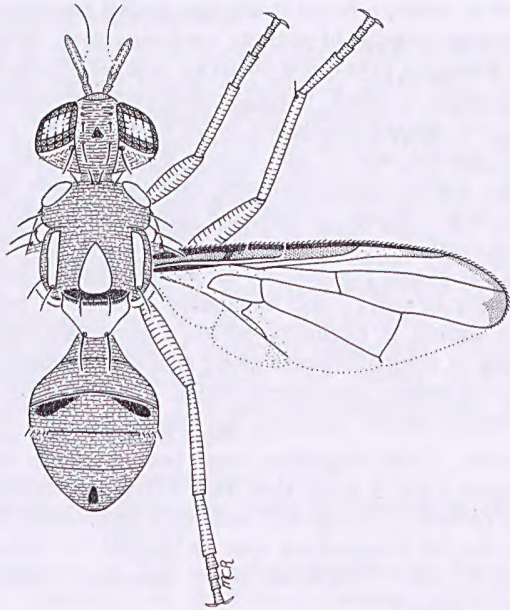


Fig. 3. *Bactrocera (Bulladacus) neotigrina* Drew & Hancock, sp. nov.

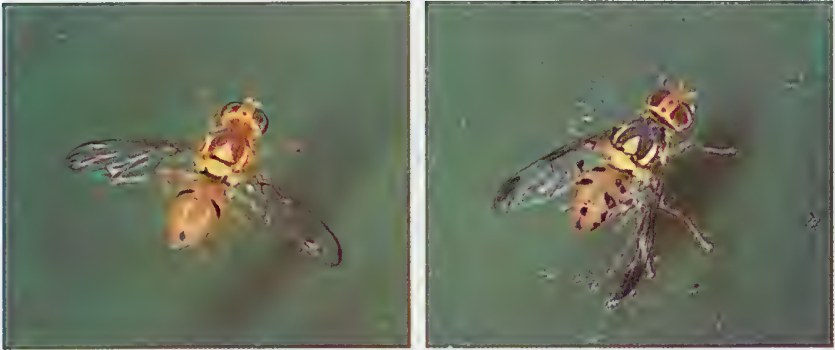
Description of male

Head. Vertical length 1.1 mm. Frons length 1.6 times breadth; orange-brown with fulvous lateral margins; anteromedial hump with a small number of short pale hairs; orbital setae red-brown: 1 *s.or.*, 2 *i.or.*; lunule red-brown. Ocellar triangle black. Vertex orange-brown. Face orange-brown centrally, fulvous laterally and without any dark markings or spots; length 0.4 mm. Genae fulvous, without dark subocular spot; red-brown seta present. Occiput orange-brown, fulvous along eye margins; occipital row with a large number of small pale setae. Antennae with all segments entirely fulvous; small pale dorsal seta on segment 2; arista black (pale red-brown basally); length of segments: 0.06 mm; 0.18 mm; 0.44 mm.

Thorax. Scutum orange-brown with a narrow black band along posterior margin and, in some specimens, a narrow longitudinal black band running from each end of this band to the mesonotal suture. Pleural areas orange-brown without dark markings. Yellow markings as follows: postpronotal lobes; notopleura; broad mesopleural stripe reaching to postpronotal lobe dorsally, continuing to katapisternum as a large transverse spot, anterior margin straight; anatergite (posterior apex black); anterior 3/4 katatergite (remainder black); two broad parallel sided lateral postsutural vittae ending behind *ia*. setae; a broad triangular medial postsutural vitta reaching almost to posterior margin of scutum, enclosing *prsc.* bristles and narrowing to a point anteriorly to end just posterior to level of mesonotal suture. Postnotum dark fuscous to black, tending red-brown dorsolaterally. Scutellum yellow except for narrow red-brown basal band. Setae: *sc.* 2, *prsc.* 2, *ia.* 1, *p.sa.* 1, *a.sa.* absent, *mpl.* 1, *npl.* 2, *scp.* 4; all setae red-brown. Legs – entirely fulvous without dark markings; mid tibiae each with an apical dark red-brown spur. Wings – length 3.8 mm; cells *bc* and *c* fuscous; microtrichia covering all of cell *c* and outer corner of cell *bc*; remainder of wings colourless except fuscous cell *sc*, narrow fuscous costal band confluent with R_{2+3} (paler in cell r_3) and expanding in apex of wing between R_{4+5} and *M* before ending at extremity of *M*, a very pale fuscous cubital streak. A swelling of wing membrane along anal cell extension that has the appearance of a colourless incomplete bulla. No distinct dense aggregation of microtrichia around $A_1 + CuA_2$; supernumerary lobe of medium development.

Abdomen. Oval; terga free; weak pecten present on tergum III. Tergum I and sterna I and II wider than long. Terga I-V orange-brown except fulvous posterolaterally on tergum II and black anterolaterally on tergum III and as a broad medial longitudinal spot on tergum V. Oval shining spots absent. Posterior lobe of surstylus short; sternum V with a deep concavity on posterior margin.

Female. As for male except supernumerary lobe weak; abdominal tergum III without pecten. Ovipositor: basal segment orange-brown; dorsoventrally compressed, tapering posteriorly in dorsal view; ratio of length of oviscape to length of tergum V, 0.7 to 1.1 : 1. Aculeus needle shaped at apex.



Figs 4-5. *Bactrocera* (*Bulladacus*) spp. (4) *B. neotigrina*; (5) *B. tigrina*.
(Photographs by Paul Zborowski)

Attractant. Not attracted to known lures.

Distribution. Northeast Queensland; known from Cooktown to Gordonvale (Cairns district).

Host. *Terminalia sericocarpa* (Combretaceae).

Comments. *B. neotigrina* is similar to *B. tigrina* (May) (Fig. 5) in having facial spots absent, similar shaped lateral and medial postsutural vittae, yellow postpronotal lobes, broad mesopleural stripe reaching to postpronotal lobe and abdominal terga basically orange-brown. It differs from *B. tigrina* in possessing a red-brown scutum, abdominal terga III-V with markedly reduced dark patterns (anterolateral corners of tergum III and medial spot on tergum V black), a reduced or incomplete bulla in male wing, no sexual dimorphism in abdominal and wing colour patterns and costal band narrow and pale in cell r_1 . Both *B. tigrina* and *B. neotigrina* were bred from the same host, *Terminalia sericocarpa*, with *B. tigrina* also utilising *Terminalia muelleri*. This is unusual for species of subgenus *Bulladacus*, elsewhere known only from *Gnetum* spp. (Gnetaceae) and *Aglaia samoensis* (Meliaceae) (Drew and Hancock 1995 [possible misidentification]). Both *B. neotigrina* and *B. tigrina* occur in rainforests.

Bactrocera (*Hemizeugodacus*) Hardy

Bactrocera (*Hemizeugodacus*) *ektoalangiæ* Drew & Hancock, sp. nov.
(Fig. 6)

Types. QUEENSLAND: *Holotype* ♂, 3.5 km along Goldsborough Valley [nr Gordonvale], 13.i.1997, L. Cockett *et al.*, bred from *Alangium villosum* ssp *polyosmoides* (sample No. MR 244) (in QM, Reg. No. T.57693); *paratypes*: 3 ♀♀, same data as holotype. 1 ♀ in ANIC; 2 ♀♀ in QDPI.

Description of male

Head. Vertical length 1.38 mm. Frons length 1.75 times breadth; orange-brown with narrow fulvous margins anterolaterally and a pale fuscous

anteromedial hump, the latter with a large number of short dark hairs; orbital setae black: 1 *s.or.*, 2 *i.or.*; lunule orange-brown to pale fuscous. Ocellar triangle black. Vertex orange-brown. Face fulvous with a pair of medium sized oval black spots; length 0.4 mm. Genae fulvous with a dark fuscous subocular spot; black seta present. Occiput orange-brown, fulvous along eye margins; occipital row with 4-5 strong black setae. Antennae with segments 1 and 2 red-brown, segment 3 broken off; a short black dorsal seta on segment 2; length of segments: 0.14 mm; 0.28 mm.

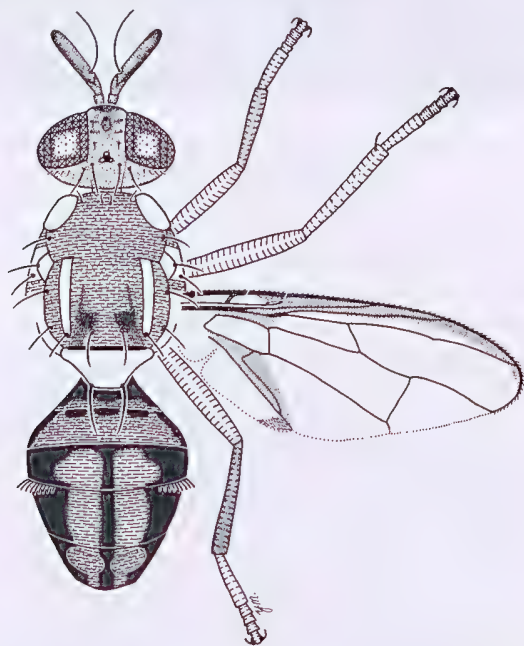


Fig. 6. *Bactrocera (Hemizeugodacus) ektoalangiiae* Drew & Hancock, sp. nov.

Thorax. Scutum orange-brown with an overall yellowish tint and a pair of small irregularly shaped black spots posterolaterally. Pleural areas orange-brown except for fuscous along anterior and posterior margins of mesopleural stripe and on central area of the katapisternum. Yellow markings as follows: postpronotal lobes; notopleura; a medium sized mesopleural stripe, reaching midway between anterior margin of notopleuron and anterior *npl.* seta dorsally, continuing onto katapisternum as a large spot, anterior margin straight; anatergite (posterior apex pale fuscous); anterior 2/3 katatergite (remainder orange-brown); two lateral postsutural vittae of medium width, narrowing only slightly posteriorly to end at the *ia.* seta. Postnotum red-brown. Scutellum yellow except for a narrow black basal band. Setae: *sc.* 2, *prsc.* 2, *ia.* 1, *p.sa.* 1, *a.sa.* 1, *npl.* 1, *npl.* 2, *scp.* 4; all

setae strong and dark fuscous. Legs – all segments fulvous except fore tibiae pale fuscous and hind tibiae fuscous; mid tibiae each with an apical dark fuscous spur. Wings – length 5.2 mm; cells bc and c colourless; microtrichia in outer corner of cell c only; remainder of wings colourless except fuscous cell sc, narrow fuscous costal band overlapping R_{2+3} and ending between extremities of R_{4+5} and M, a broad fuscous cubital streak ending at wing margin. Dense aggregation of microtrichia around A_1+CuA_2 ; supernumerary lobe of medium development.

Abdomen. Oval; terga free; pecten present on tergum III. Tergum I and sterna I and II wider than long. Tergum I dark fuscous to black except for a narrow orange-brown posterior margin; tergum II orange-brown except for large fulvous areas posterolaterally, a medial and two lateral transverse black spots anteriorly and narrow lateral black margins; terga III-V fulvous except for a broad medial and two broad lateral longitudinal black bands over all three terga and joined along anterior margin of tergum III. A pair of oval orange-brown shining spots on tergum V. Posterior lobe of surstylus short; sternum V with a slight concavity on posterior margin.

Female. As for male except as follows: without dense aggregation of microtrichia around A_1+CuA_2 ; supernumerary lobe weak; abdominal tergum III without a pecten. Ovipositor: basal segment red-brown, dorsoventrally compressed and tapering posteriorly in dorsal view; ratio of length of oviscape to length of tergum V, 0.6:1. Aculeus trilobed at apex. Length of antennal segment 3 (lost in male), 0.6 mm.

Attractant. No known record.

Distribution. Northeast Queensland; known only from the Goldsborough Valley near Gordonvale, Cairns district.

Host. *Alangium villosum* ssp. *polyosmoides* (Alangiaceae).

Comments. *B. ektoalangiæ* fits into subgenus *Hemizeugodacus* Hardy in possessing a short posterior surstylus lobe, a slight concavity on the posterior margin of abdominal sternum V of male, a pecten on abdominal tergum III of male and prescutellar bristles present. It possesses two *sc.* bristles, not four as in the two previously known species of *Hemizeugodacus*. *B. ektoalangiæ* is similar to *B. (H.) aglaiaæ* (Hardy) and *B. (H.) aurea* (May) in having a general red-brown body colouration with an overall yellowish tint, wings with a narrow costal band and cubital streak, postpronotal lobes and notopleura yellow and lateral postsutural yellow vittæ present. It differs from *B. aglaiaæ* in lacking a medial postsutural yellow vitta on the scutum, and in possessing colourless cells bc and c, distinct black patterns on abdominal terga III-V and a trilobed apex on the aculeus of the female ovipositor. *B. ektoalangiæ* has an interesting similarity with *B. aurea* in that they have been reared from different subspecies of the same rainforest plant, *Alangium villosum*, *B. aurea* from subspecies *tomentosum* in southeast Queensland and *B. ektoalangiæ* from subspecies *polyosmoides* in northeast

Queensland. *B. ektoalangiæ* differs from *B. aurea* in lacking a fuscous pattern on the wing in addition to the costal band and cubital streak and in possessing an entirely yellow scutellum, anterior supra-alar bristles, a mesopleural stripe of medium width, colourless cells bc and c with microtrichia in outer corner of cell c only, distinct black patterns on abdominal terga III-V and a trilobed apex on the aculeus of the female ovipositor.

Bactrocera (Javadacus) Hardy

Bactrocera (Javadacus) unirufa Drew

Comments. This species is widespread in rainforests from Rossville (south of Cooktown) to the Ingham district and responds to methyl eugenol. Specimens are also known from the Bamaga and Lockhart River areas of Cape York Peninsula and from Dunk Island. Previously recorded only from the type locality, Bellenden Ker Range (Drew 1989). The host is unknown.

Dacus (Callantra) Walker

Dacus (Callantra) pusillus (May)

Comments. This species is widespread in rainforests from Cooktown to the Ingham district. It also occurs at Lockhart River on Cape York Peninsula and was recorded from Torres Strait islands by Drew (1989). The host is unknown.

Dacus (Dacus) Fabricius

Dacus (Dacus) secamoneæ Drew

Comments. A female from 3.5 km south of Chillagoe (17°10'S, 144°32'E), 26.iv.1997, C.J. Burwell (in QM) has yellow postpronotal lobes but otherwise appears to belong here. This species is known previously only from the Northern Territory (Drew 1989).

Acknowledgments

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